

REMARKS

Claims 1-4, 6-10, 13-18, 24-25, 32-35, 37-41, and 44 were pending in the application. Claims 1-4, 6-10, 13-18, 24-25, 32-35, 37-41, and 44 were rejected. Claims 1-4, 6-10, 13-18, 24-25, 32-35, 37-41, and 44 were cancelled. Claims 46-70 were added. Claims 46-70 remain in the application.

Claims 1, 3-4, 17, 32, and 34-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al (US Application: US 2003/0167271 A1, published: Sep. 4, 2003, filed: Aug. 28, 2001; hereafter referred to as "Arnold") in further view of CTAN (Dante, published: October 2002, page 1; hereafter referred to as "CTAN") and Taylor (US Application: US2001/0033688 A1, published: Oct. 25, 2001, filed: Feb. 2, 2001; hereafter referred to as "Taylor").

Claims 2, 18, and 33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, CTAN, and Taylor, in further view of Lahey et al (US Patent: 5,999,945, issued: Dec. 7, 1999, filed: Sep 15, 1997).

Claims 6, 7, 14, and 37-38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, CTAN, and Taylor, in further view of Hansen (US Application: US 2002/0067502 A1, published: Jun. 6, 2002, filed: Dec. 4, 2000; hereafter referred to as "Hansen").

Claims 10, 13, 41, and 44 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, CTAN, and Taylor in further view of Hull (US Patent: 5,832,110, issued: Nov. 3, 1998, filed: May. 28, 1996).

Claims 8-9, 24-25, and 39-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, CTAN, Taylor, and Hull, in further view of Altamura et al (IJDAR, published: November 7, 2000, pages 1-9).

Claims 15-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, CTAN, and Taylor, in further view of Nakagiri et al (US Patent: 6,616,359 B1, published: Sep. 9, 2003, filed: Nov. 2, 2000) and MacLean et al (US Application: US 2003/0103238 A1, published: Jun. 5, 2003, filed: Nov. 30, 2001).

Claims 1-4, 6-10, 13-18, 24-25, 32-35, 37-41, and 44 were cancelled.

Added Claim 46 states:

46. A method for generating a portable document format (PDF) representation of a book having a plurality of pages, comprising the steps of:

scanning the pages of the book to produce scanned pages;
generating original PDF pages from respective said scanned pages, said original PDF pages corresponding to respective pages of the book, wherein said original PDF pages have content areas of text or graphics or both and non-content areas surrounding the content areas;

creating on each of said original PDF pages, a bounding box of minimal size to enclose all of the respective said content areas, each said bounding box defining a respective cropped PDF page;

selecting a feature common to all of said cropped PDF pages;

discarding said cropped PDF pages; and

aligning all of said original PDF pages in a PDF representation of the book using said selected feature to prevent an appearance of page jumping between succeeding pages in the PDF representation of the book.

Claim 46 is supported by the application as filed, notably the original claims and at page 1, paragraph 0006. The application states:

'With the invention a user scans pages of a book into a controller or computer where the pages are converted into a file that is independent of the platform that created the documents. In the preferred embodiment the computer converts the scanned pages into portable document formatted (PDF) pages. Each PDF page comprises content areas of text or graphics or both and non-content areas surrounding the content areas. The program determines a bounding box around the content areas for placement purposes and to determine the size (and position) of the content area. As such the page is temporarily cropped in order to assess its content area and align its content area with other pages. As soon as this information is available, the cropped image is discarded again. The original image is moved by the amount determined through this operation.' (Application, page 1, paragraph 0006)

'In other words, the program processes the PDF formatted document to define the minimum content areas that include all of the information (text, graphics and images) on the page. This is called a "cropped" image for purposes of explaining how the program works. No portion of the document is actually removed.' (Application, page 1, paragraph 0006)

Claim 46 requires creating a bounding box on each original PDF page generated from a scanned page of a book. The bounding box defines a cropped PDF page. A feature common to all of the cropped PDF pages is selected. The cropped PDF pages are discarded. The original PDF pages are aligned using the selected feature. This distinguishes Claim 46 from the cited combinations of references, which, according to the rejection of Claim 1, teach aligning cropped images:

'The combination of Arnold et al, CTAN, and Taylor would have allowed Arnold's system to have been able to have generated PDF documents that are cropped and aligned through a selected feature that is common among PDF documents, such that pages "are accurately registered and oriented". (page 5; emphasis added)

Claim 46 utilizes cropped images for a different and temporary purpose, selecting a feature for aligning non-cropped images. This is not envisioned in the cited references.

Claim 46 is also contrary to the cited motivation for combining Arnold and CTAN:

"It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Arnold et al's PDF generating system, which contains multiple/plurality of pages in a PDF, to further include the ability to crop non-content areas of each PDF page to produce a plurality of cropped pages as taught by CTAN, for all of the pages in the book. The combination of Arnold et al and CTAN would have allowed Arnold et al's PDF generating system to have been able to have produced PDFs that are reduced in size for optimal storage and manipulation purposes." (page 4, emphasis added)

Claim 46 requires creating the cropped PDF pages, which presents a computational burden, but does reap the benefits of reduction in size for optimal

storage and manipulation, since the cropped PDF pages are discarded and the original PDF pages are aligned.

Taylor teaches against Claim 46. The rejection states, in this regard, in relation to Claim 1:

"Taylor teaches a method for *selecting a feature of* on the pages common to all the pages, *and aligning the selected feature of* on all the pages (paragraphs 0046-0048: whereas a feature is selected common to successive pages in a document form (paragraph 0058))." (page 5)

In Taylor, the selected feature used with a completed form is from a blank version of the same form. Taylor states:

'The digital blank form will be used as a "reference" image in the steps that follow and the user's marked form will be compared against it.'

(Taylor, page 3, paragraph 0036)

Alternatively, a smaller portion ("one or more bubbles") is compared to a same size portion of the completed form. (Taylor, page 7, paragraph 0071)

Claims 47-55 are allowable as depending from Claim 46 and as follows.

Claim 47 states:

47. The method of claim 46 further comprising using one of said cropped PDF pages as an alignment standard for said feature.

Claim 47 is supported by the application as filed notably at page 2, paragraphs 0021 and 0029.

Claim 47 requires that one of the cropped PDF pages of the book is used as an alignment standard for the feature used in aligning the original PDF pages. Taylor teaches against this. Taylor states:

"The digital blank form will be used as a "reference" image in the steps that follow and the user's marked form will be compared against it. Note that use of the reference image is a critical aspect of the instant invention and the current state-of-the-art in OMR does not utilize a scanned control or reference image." (Taylor, page 3, paragraph 0036; emphasis added)

Claims 48-49 are allowable as depending from Claim 47 and as follows.

Claim 48 is supported by the application as filed notably at page 2, paragraph 0029.

Claim 49 states:

49. The method of claim 47 wherein said using further comprises identifying a largest of said cropped PDF pages as said alignment standard.

Claim 49 is supported by the application as filed notably at page 2, paragraph 0021. Claim 49 requires identifying the largest of the cropped PDF pages as the alignment standard and is taught against by Taylor as discussed above in relation to Claim 47.

Claim 50 is supported by the application as filed notably at page 2, paragraph 21. Claim 50 is allowable as depending from Claim 49.

Claim 51 states:

51. The method of claim 50 further comprising:
warning a user when said bounding boxes are of different sizes; and allowing the user to define new alignment rules.

Claim 51 is supported by the application as filed notably at page 2, paragraph 0025. Claim 51 is allowable as depending from Claim 50 and as follows.

Claim 51 requires warning the user when bounding boxes are of different sizes and allowing the user to define new alignment rules. Different size bounding boxes are taught against by Taylor as discussed above in relation to Claims 46 and 47. Allowing the user to define new rules, when bounding boxes differ in size is also contrary to the use of Taylor for "forms". (See Taylor, page 2, paragraph 0015; page 8, paragraph 0088.)

Claims 52-55 are supported by the application as filed, notably the original claims.

Claim 56 states:

56. A method for generating a portable document format (PDF) representation of a book having a plurality of pages, comprising the steps of:

scanning the pages of the book in a duplex mode having front and back scans to produce a first set of scanned pages from said front scans and a second set of scanned pages from said back scans;
generating first and second sets of original PDF pages from respective said sets of scanned pages, said original PDF pages corresponding to respective pages of the book, wherein said original

PDF pages have content areas of text or graphics or both and non-content areas surrounding the content areas;

creating on each of said original PDF pages, a transient bounding box of minimal size to enclose all of the respective said content areas, each said bounding box defining a respective cropped PDF page;

selecting different first and second features of said cropped PDF pages, said first feature being common to all of said cropped PDF pages of said first set, said second feature being common to all of said cropped PDF pages of said second set;

discarding said cropped PDF pages; and

aligning all of said original PDF pages in a PDF representation of the book using the respective said selected features to prevent an appearance of page jumping between succeeding pages in the PDF representation of the book.

Claim 56 is supported by the application as filed in the same manner as Claim 46 and, notably, at page 3, paragraphs 0032-0033.

Claim 56 requires generating first and second sets of original PDF pages from respective sets of front scanned pages and back scanned pages. Bounding boxes are created and features of the first and second sets are selected, as in the feature selection of Claim 46. The cropped PDF pages are discarded and the original PDF pages are aligned in a PDF representation of the book using the respective selected features. Claim 56 is allowable on the same grounds as Claim 46 and as follows.

The selection of different features for different sets of pages, each set resulting from a different scan (front and back) then the aligning together of those sets of pages in a PDF representation of the book using the respective selected features is not taught by the cited references. The rejection addressed grouped subsets of pages, odd numbered and even numbered, in relation to Claims 6 and 7:

'With regards to claim 6, Arnold et al, CTAN, and Taylor teach generating pages from a book, and performing the alignment step of claim 1, automatically, in claim 1, and is rejected under the same rationale.

However, Arnold et al, CTAN, and Taylor do not teach grouping pages from the book into plural subsets.

'However, Hansen teaches grouping pages from the book into plural subsets (Abstract, paragraph 0016: whereas a group of pages are selected and identified for processing, such that multiple subsets, identified by identifiers are implemented for search and printing).

'It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Arnold et al, CTAN, and Taylor's PDF alignment system to further include the ability to align only selected groupings of PDF pages as taught by Hansen. The combination of Arnold et al, CTAN, Taylor, and Hansen, would have allowed Arnold et al's system to have the ability to have "grouped the pages or elements destined for a specific printing device" (paragraph 0011) or print-output.

'With regards to claim 7, Arnold et al, CTAN, Taylor, and Hansen teach a method each subset as explained in claim 6, and is rejected under the same rationale. Furthermore, Hansen teaches "any particular page . . . may belong to more than one group of pages" (paragraph 0038: thus, any page includes pages that are odd or even. Additionally, since each subset is not restricted to just odd page numbers, and just even numbers, then Hansen also teaches that any one subset can also contain odd page numbers and/or even page numbers).' (pages 10-11)

As the above-quoted language notes, Hansen teaches that "any particular page . . . may belong to more than one group of pages". This is contrary to Claim 56, in which the pages of the first set are from front scans and the pages of the second set are from back scans.

Claims 57-67 are allowable as depending from Claim 56. Claims 57-67 are also supported and allowable as follows. Claims 57-61 are also allowable on the same basis as Claims 47-51, respectively. Claim 62 is supported by the application as filed, notably at page 3, paragraph 0033. Claims 62-67 are supported by the application as filed, notably the original claims.

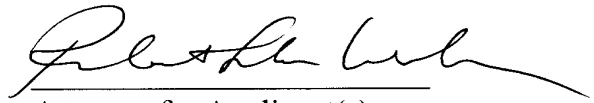
Claim 68 is supported and allowable on the basis as Claim 46.

Claims 69-70 are allowable as depending from Claim 68 and are supported and allowable on the same basis as Claims 47 and 49, respectively.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read 'Robert Luke Walker', written over a horizontal line.

Attorney for Applicant(s)
Registration No. 30,700

Robert Luke Walker/amb/tt
Rochester, NY 14650
Telephone: (585) 588-2739
Facsimile: (585) 477-1148

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